



Rat Gene 1.1 ST Array Plate

Intended Use

The Affymetrix® Rat Gene 1.1 ST Array Plates are designed for medium and high-throughput expression profiling, enabling researchers to process multiple arrays in parallel. Each plate consists of 16, 24 or 96 microarrays and contains the same probe sets as the GeneChip® Rat Gene 1.0 ST Cartridge Array.

Each array is comprised of more than 720,000 unique 25-mer oligonucleotide probes that interrogate over 27,000 genes. Discovery content, such as transcript regions supported by more speculative sources including Expressed Sequence Tags (ESTs) and gene predictions, are not interrogated by the Affymetrix Rat Gene 1.1 ST Array Plates. Design of the array was based on sequences and gene annotations obtained from the following sources and used to group probes from the GeneChip® Rat Exon 1.0 ST Array into new gene-level probe sets. In some cases these sequences were used to select additional new probes.

- The November 2004 rat genome sequence (UCSC m4, Baylor HGSC v3.4).
- RefSeq NM (curated and provisional; not predicted) mRNA sequences (10,084 sequences) current to April 3, 2007.
- Genbank® complete coding sequence mRNAs (12,547 sequences) current to January 25, 2007.
- Rat Ensembl transcripts current to April 3, 2007 (37,695 transcripts).
- Syntenically mapped full-length mRNAs and RefSeq NMs from human (66,206 sequences) and mouse (49,516 sequences).

Identical to the cartridge array manufacturing process, the oligonucleotide probes on the Affymetrix Rat Gene 1.1 ST Array Plates are synthesized *in situ* using Affymetrix' photolithographic process. The Affymetrix Rat Gene 1.1 ST Array Plates are for research use only and not intended for use in diagnosis of disease. Please refer to www.affymetrix.com for a list of supporting manuals for procedures regarding target preparation, target hybridization, washing, staining, and array plate scanning.

Library Files

Library files contain information about the probe array design characteristics, probe use and content and scanning and analysis parameters. These files are unique for each probe array. Additional information can be located under the specific array product at www.affymetrix.com.

Reagents, Instrumentation and Software Required

1. GeneTitan™ Instrument
2. Affymetrix GeneChip® Command Console® Software (AGCC)
3. For a complete list of reagents please visit www.affymetrix.com.

Critical Specifications

Feature Size	5 µm
Total Number of Distinct Probes	722,254
Oligonucleotide Probe Length	25-mer Probes
Required Orientation of Labeled Targets to be Hybridized to the Array	Sense Target
Resolution (number of probes per gene)	26 (median)
Estimated Number of Genes	27,342
Gene-level Probe Sets with ENSEMBL Support	26,008
Gene-level Probe Sets with Putative Full-length Transcript Support (GenBank® and RefSeq)	9,916
Hybridization Volume	90 µL
Positive Controls (constitutively expressed genes)	399 putative exon-level probe sets from putative constitutive genes
Negative Controls	1,153 putative intron-level probe sets from putative constitutive genes
Hybridization Controls	<i>bioB</i> , <i>bioC</i> , <i>bioD</i> , <i>creX</i>
Background Probes	Antigenomic Set
Poly-A Controls	<i>dap</i> , <i>lys</i> , <i>phe</i> , <i>thr</i> , <i>trp</i>
Library Files	RaGene-1_1-st-v1 (or newer)

Ordering Information

Each array plate kit contains a single array plate and the required hybridization, stain, scan trays and tray covers required for use on the GeneTitan Instrument.

P/N	Product Name	Description
901423	Rat Gene 1.1 ST 16-Array Plate Kit	1 x 16-Array Plate Kit
901422	Rat Gene 1.1 ST 24-Array Plate Kit	1 x 24-Array Plate Kit
901421	Rat Gene 1.1 ST 96-Array Plate Kit	1 x 96-Array Plate Kit

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Precautions

1. AFFYMETRIX ARRAY PLATES ARE FOR RESEARCH USE ONLY; NOT FOR DIAGNOSTIC PROCEDURES.
2. Avoid microbial contamination, which may cause erroneous results.
3. WARNING: All biological specimens and materials with which they come into contact should be handled as if capable of transmitting infection and disposed of with proper precautions in accordance with federal, state, and local regulations. This includes adherence to the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030) for blood-derived and other samples governed by this act. Never pipet by mouth. Avoid specimen contact with skin and mucous membranes.
4. CAUTION: Exercise standard precautions when obtaining, handling, and disposing of potentially carcinogenic reagents.
5. Exercise care to avoid cross-contamination of samples during all steps of this procedure, as this may lead to erroneous results.
6. Use powder-free gloves whenever possible to minimize introduction of powder particles into sample or probe array plates.
7. CAUTION: Use care when handling the Scan Tray as it has protruding guiding posts that may be sharp and can stick out of the pouch if not handled carefully.

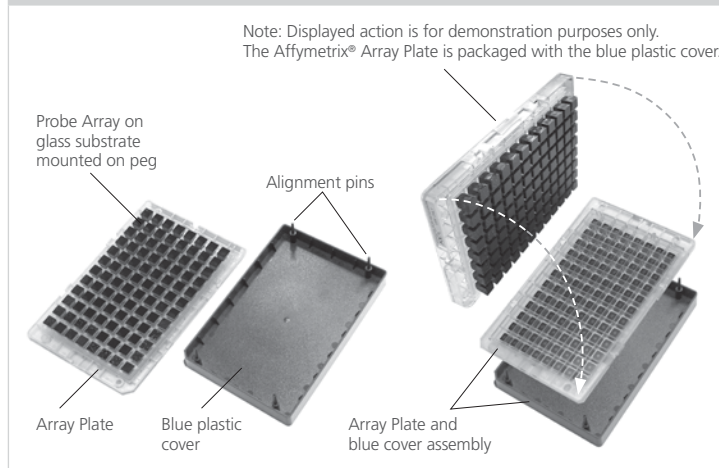
Storage, Handling and Stability

The Affymetrix array plates should be stored at 2° to 8°C and must not be frozen. Refer to the expiration date on the package label. Do not use probe arrays or reagents after the expiration date.

When Handling the Array Plate

Remove the array plate from the pouch with gloved hands. The array plate is packaged with a blue plastic cover (Figure 1). Do not remove the protective blue plastic cover from the array plate or touch the array plate directly. This protective cover should stay with the array plate at all times prior to being handled by the GeneTitan System.

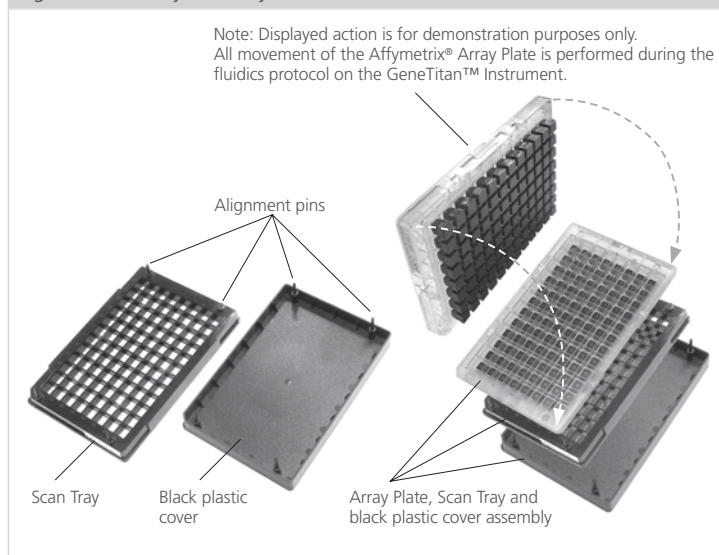
Figure 1. Array Plate Assembly



When Handling the Scan Tray

Remove the scan tray from the pouch with gloved hands. The scan tray is packaged with a black plastic cover (Figure 2). Do not remove the protective black plastic cover from the scan tray or touch the scan tray directly. This protective cover should stay with the scan tray at all times prior to loading into the GeneTitan System. In addition, the scan tray has protruding guiding posts that may be sharp and can stick out of the pouch if not handled carefully; therefore, take precaution to prevent unnecessary injury.

Figure 2. Scan Tray Assembly



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